
On stem cells, aging and hopes for spryer golden years

Posted: June 21, 2011

Created: 21/06/2011 - 12:26

Last week my three year old scraped up the entire left side of his face. Today, there's barely a trace of the injury. That's the glory of three year old skin, or more precisely, the glory of three year old stem cells.

Erin Allday at the San Francisco Chronicle had a story last week about the issue of aging stem cells featuring several CIRM grantees who are, like me, curious about why stem cells heal damage more slowly as we age. Her story includes Thomas Rando of Stanford University, whose work I wrote about several years ago. What I found fascinating then, and what still isn't understood, is why a stem cell grows less able to repair damage over time. Rando and his former postdoctoral fellow Irina Conboy (now at University of California, Berkeley) have found that in older muscle, the stem cells are still able to respond, but the signals themselves may not be as strong. The stem cells are there, they just don't hear damaged muscle's cry for help.

Allday quotes Rando, who is director of the Glenn Laboratories for the Biology of Aging at Stanford:

“ I don't necessarily see it as a way of reversing Alzheimer's or making people live to 200 years old, but there's this dormant potential that can be unleashed that can profoundly affect the way stem cells repair tissues.”

Allday also quotes Irina Conboy, who spoke at last week's annual meeting of the International Society for Stem Cell Research in Toronto:

“ Like physicists trying to find the unified theory of everything, we're trying to find the unified theory of all these bad things that happen with aging. I think they all stem from a lack of stem cell responses.

Conboy has a New Faculty Award from CIRM to learn more about how stem cells age.

Nobody is arguing that studying stem cells will uncover the fountain of youth (at least, CIRM scientists aren't). Instead, CIRM President Alan Trounson said that by understanding how and why our body's stem cells age scientists could learn how to keep those stem cells more lively during a person's golden years. We wouldn't live longer, maybe, but as long as we're alive it would be nice to heal more effectively or resist disease. Just having bones heal more quickly could significantly reduce health care costs for the elderly.

“ With aging, there are a lot of systems that start to become less efficient or break down or be more inclined to diseases. We may work out ways to provide stem cells that would enable people to remain vigorous.”

Remaining vigorous sounds pretty good to me, even if I don't ever again heal with the speed of a three year old.

A.A.

Tags: rando, Conboy, Stanford University, University of California Berkeley, New Faculty

Source URL: <https://www.cirm.ca.gov/blog/06212011/stem-cells-aging-and-hopes-spryer-golden-years>